

# Theorizing change in artificial intelligence: inductivising philosophy from economic cognition processes

Debasis Patnaik

Received: 30 December 2012 / Accepted: 14 October 2013  
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**Abstract** Economic value additions to knowledge and demand provide practical, embedded and extensible meaning to philosophizing cognitive systems. Evaluation of a cognitive system is an empirical matter. Thinking of science in terms of distributed cognition (interactionism) enlarges the domain of cognition. Anything that actually contributes to the specific quality of output of a cognitive system is part of the system in time and/or space. Cognitive science studies behaviour and knowledge structures of experts and categorized structures based on underlying structures. Knowledge representation through understanding of ‘epistemic cultures’ is an evolutionary stage. But cognition goes beyond knowledge representation. Notwithstanding the importance of epistemology of phenomena, the practicability cum philosophical aspects of machine learning needs to be seen in dynamic behaviour in socio-economic-technical value additions if human machine interaction processes that are context specific are incorporated into strong artificial intelligent systems. Cognitive Science is also studied from both computational and biological angles. Evolution of interactive forms of reasoning through understanding of meta-language of computations or biological learning processes is possible. But the limitation of historical cultures predefines the role of interactive processes in user-networks beyond technology networks. Despite this limitation, inclusive development notions of a heterogeneous national society such as India or Europe can be tested and incorporated.

**Keywords** Physical symbol systems · Connectionism · Evolutionary · Cognitive · Human factors · Economic value addition

## 1 Introduction

The progress of industrialization was an outcome of contrarian thinking to the immediate goals of traditional religious thinking that tended to define and impute meaning to the world, its actions and the inherent thinking process embedded in it. It shaped man in ways of logical thinking, provided meaning to its multiple language structures and sought a harmony across world’s language structures within a framework of free and diversified thinking. It brought value addition to the issue of ideas and matter, to paradigms that grew and enriched one another. When machines grew to command a space of its own, it manifested signs of efficiency, wear and tear with manifold levels of human–machine interaction processes. Artificial Intelligence (AI) brought in a concept of an agent centric rule that based its action-decisions on observation programs, belief systems and adductive-interactive processes. In multi-agent systems, the primary language of the agent performed a secondary function of communicating with other agents and in turn incorporating the feedbacks. Procedural and inferential processes generated decision-making outputs thereby aiding in the world’s language and actual economic production systems. Behavioural productions of the world resulted from individual’s language, cognitive and economic structures that shaped philosophical thinking to transform the world’s agenda for action.

When Kirsh (1991) formulated the five foundational issues of AI, at its core was the initiation and

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D. Patnaik (✉)  
Department of Economics, Birla Institute of Technology and Science, Pilani-K.K. Birla Goa Campus, 17 B Bypass Road, Zuari Nagar, Vasco 403726, Goa, India  
e-mail: marrikesh@yahoo.com